6th Working Group Meeting for

Proposed Amended Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations and Proposed Amended Rule 1426 – Emissions from Metal Finishing Operations

South Coast AQMD

September 20, 2017

Summary of Working Group #5 on August 31, 2017

- Presented sampling results the following types of tanks at 8 different facilities:
  - Filter cake
  - Cleaner
  - Neutralizer
  - Sealing
  - Dye
  - Chromate Conversion
  - Rinse
  - Passivate
  - Etch
  - Stripping
  - Desmutt
  - Chem Film
- Based on sampling results, initial recommendations provided
- Reviewed Preliminary Draft PAR 1469 Rule Language for:
  - Purpose
  - Applicability
  - Definitions
  - General Requirements
  - Requirements for a Building Enclosure
  - Housekeeping Requirements
  - Best Management Practices

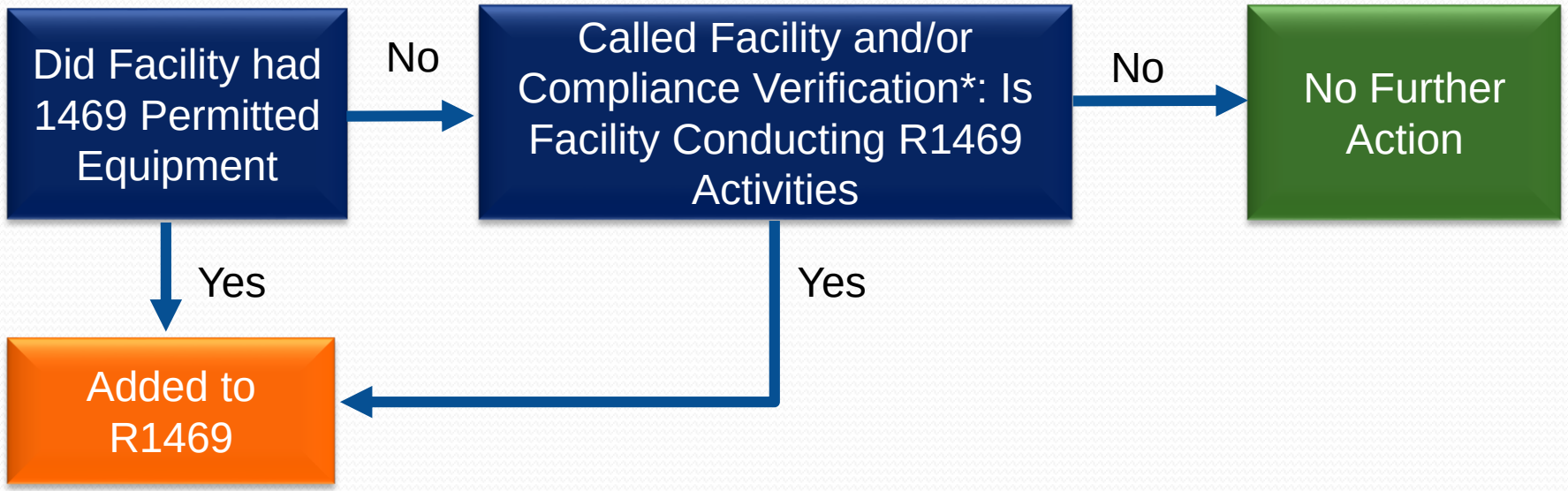
Comment at Working Group #5

- At the last Working Group Meeting, the City of Los Angeles requested the list of the specific agencies that participated in the joint inspections in Paramount and Compton, and their findings
- SCAQMD staff contacted the city of Los Angeles to understand their request
- SCAQMD staff does not have the details regarding which agency specifically participated in each facility inspection and the other agency's findings
- City of Los Angeles representative later provided information that the City's Health Education, and Neighborhood Council signed a motion on August 30, 2017 that instructed the city's Bureau of Sanitation to work with SCAQMD and the Los Angeles County Department of Public Health to report back within 30 days regarding:
  - A priority ranking of potential sites that could have excessive levels of hexavalent chromium
  - A plan for joint inspections of these sites
  - An analysis of potential environmental justice impacts in Los Angles communities
  - A written update on ways to reduce potential health effects to Los Angeles residents
- SCAQMD staff is working directly with the City of Los Angeles – request is not just Rule 1469 related

Verifying R1469 Facility Universe

- Staff conducted further research to identify other facilities that may have not been initially identified
- Multiple methods were used to find new facilities:
  - Staff conducted internet searches
  - Checked SCAQMD permitting database
  - Cross-checked facilities based on NAICS code
  - Lists provided from MFASC
    - Compton Area List
    - General List
- Overall search represented over 10,000 different businesses

General Approach to Verify Additional 1469 Facilities



Result: 3 Additional Facilities Identified

* In some cases compliance inspected facility and no phone call was needed.

Updates on Facility/Compliance Surveys

- Staff distributed the original survey in June 2017 and a follow-up survey to incorporate changes to reflect industry concerns of confidential information in August 2017
- SCAQMD staff has 61 completed surveys
- Accurate and complete surveys will assist in developing impacts of the amendments for facilities
- For facilities that have not responded, SCAQMD will
  - Send out a reminder email by the end of this week
  - Make follow-up phone calls in about 2 weeks
- Additional site visits may be needed to complete surveys

Overview of Key Requirements

Point Source Controls Tier II Tanks

Building Enclosure (On-Ramp for Permanent Total Enclosure)

Enhanced Housekeeping Provisions

Best Management Practices for Tier I and II Tanks

Parameter Monitoring of Tier II Tanks

Periodic Source Testing

Recordkeeping and Reporting

Recommendations on Key Topics

- PAR 1469 will not include provisions for mandatory or an on-ramp for ambient monitoring for hexavalent chromium
  - Ambient monitoring of air toxics will be addressed in a separate rule and will included not only Rule 1469 facilities but other sources
- PAR 1469 will require chrome emitting operations occur within a Building Enclosure
- Permanent Total Enclosures with negative air vented to pollution controls will be an “on-ramp” that is triggered for non-compliant facilities (additional details later in presentation)

Preliminary Draft Rule Language

Applicability (b)

- Removed statement regarding compliance with Rules 1401 and 1401.1
  - Unconventional to reference compliance with new source review rules
  - All new are modified permits will be subject to Rules 1401 and 1402
  - Facilities are required to comply with existing new source review rules regardless of whether it is stated in Rule 1469 or any other rule

(ab) Applicability

This rule shall apply to:

(1) ~~This rule shall apply to t~~The owner or operator of any facility performing chromium electroplating or chromic acid anodizing. ~~Compliance with this rule shall be in addition to other applicable rules, such as Rule 1401 New Source Review of Toxic Air Contaminants and Rule 1401.1 Requirements for New and Relocated Facilities Near Schools.~~

(2) Any person who sells, supplies, offers for sale, uses, or manufactures for sale in the District a chromium electroplating or chromic acid anodizing kit.

Definitions (c) (Modified or Added Since Last Working Group Meeting)

- Approved Cleaning Method
- Barrier
- Building Enclosure
- Cross Draft
- Freeboard Height
- Fugitive Dust
- High Efficiency Particulate Arrestor (HEPA) Vacuum
- Low Pressure Spray Nozzle
- Non-Ventilated Add-On Air Pollution Control Device
- Permanent Total Enclosure
- Rinse Tank
- Stalagmometer
- Tank Process Area
- Tier I Hexavalent Chromium-Containing Tank
- Tier II Hexavalent Chromium-Containing Tank

"Breakdown" was removed

Requirements (d)

- Modified to reference Tier I or Tier II hexavalent chromium-containing tanks
- Modified to require that operator cannot air sparged when “parts are not in the tank,” rather than “when tank is not in use”
- Maintain freeboard height of at least 8 inches for a Tier I or Tier II tank installed or modified after date of rule adoption
- Considering prohibiting air sparging and allowing air sparging only if specifically required through a military specification

(3) No Tier I or Tier II ~~h~~Hexavalent ~~e~~Chromium-Containing Tank ~~electroplating or chromic acid anodizing tank~~ shall be air sparged ~~when electroplating is not occurring, or while chromic acid is being added~~unless approved in writing by the Executive Officer and conducted under the following conditions:~~.~~

(A) Tier I or Tier II Hexavalent Chromium-Containing Tanks shall not be air sparged when parts are not in the tank, except only up to one hour prior to parts being placed in the tank, and one hour after parts are removed from the tank;

(B) Air sparging shall not occur when chromic acid powder, chromic acid flakes, or any other tank constituent containing hexavalent chromium is being added to the tank bath; and

(C) Tanks shall be operated using air pollution control techniques as approved by the Executive Officer during air sparging.

(4) Beginning [30 Days After Date of Rule Adoption], the owner or operator of a Tier I or Tier II Hexavalent Chromium-Containing Tank installed or modified after [Date of Rule Adoption] shall maintain a freeboard height of at least 8 inches for the installed or modified tank.

Overview of Subdivision (e) – Requirements for Building Enclosures

- Subdivision establishes requirements for building enclosures
- Revisions since last Working Group Meeting highlighted
- Key sections in subdivision (e):
  - Paragraph (e)(1) – Must operate Tier I or Tier II tanks within a building enclosure
  - Paragraph (e)(2) – Requirements for openings in building enclosure
  - Paragraph (e)(3) – Requirements for roof openings in building enclosure
  - Paragraph (e)(4) – Prohibit operation of any device that pulls air out of building enclosure
  - Paragraph (e)(5) – Openings near a sensitive receptor **NEW**
  - Paragraph (e)(6) – Operate enclosure in a manner not in conflict with OSHA
  - Paragraph (e)(7) – Inspection requirements
  - Paragraph (e)(8) – Repair requirements
  - Paragraph (e)(9) – Conditional Requirements for Permanent Total Enclosure **NEW**

Building Enclosure Requirements – Openings (e)(2) and Roof Openings (e)(3)

- Replaced “cross draft” to “minimize the movement of air”
- Clarified provision to address release of fugitive dust emissions to the “outside” of the building enclosure (e)(2)
- Clarified that must “Close all roof openings located within 30 feet above the edge of any Tier I or Tier II tank Hexavalent Chromium-Containing Tank *except* roof openings that are used to…” (e)(3)

(e) Requirements for Building Enclosures

Beginning [30 days after Date of Rule Adoption], the owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing shall:

(1) Operate any Tier I or Tier II Hexavalent Chromium-Containing Tank and associated process tanks within a building enclosure;

(2) Minimize the movement of air within the building enclosure that can lead to release of fugitive dust emissions to the outside of the building enclosure, from passages, doorways, and bay doors by installing automatic roll-up doors, plastic strip-curtains, or vestibules for doors and openings in the building enclosure. Alternative methods to minimize release of fugitive hexavalent chromium emissions from the building enclosure may be used if the owner or operator can demonstrate to the Executive Officer (an) equivalent or more effective method(s) to minimize cross-draft conditions.

(3) Close all roof openings that are located within 30 feet above the edge of any Tier I or Tier II Hexavalent Chromium-Containing Tank except roof openings that are used to:

(A) Allow access for equipment or parts; or

(B) Provide intake air for a building enclosure that does not create cross-draft conditions impacting the collection efficiency of a ventilation system for an add-on air pollution control device.

Building Enclosure – Sensitive Receptor (e)(5) and Repairs (e)(8)

- Added provision to close all building openings that are located within 100 feet of a sensitive receptor (e)(5)
  - Minimize exposure to critically close sensitive receptors
- Added the 1-800-CUT-SMOG phone number to report a break, crack, gap, or deterioration in the building enclosure that could or results in fugitive hexavalent chromium emissions escaping the building enclosure (e)(8)

(5) Close all building enclosure openings that are not subject to subparagraphs (e)(3)(A) and (e)(3)(B) that are located within 100 feet of a sensitive receptor.

(8) Repair any breaks, cracks, gaps, or deterioration that could or results in fugitive hexavalent chromium emissions from any building enclosure within 72 hours of discovery. The owner or operator may request an extension by calling 1-800-CUT-SMOG. The Executive Officer may approve a request for an extension beyond the 72-hour limit if the request is submitted before the 72-hour time limit has expired, and the owner or operator provides information to substantiate that:

(A) the repair will take longer than 72 hours, or the equipment, parts, or materials needed for the repair cannot be obtained within 72 hours; and

(B) temporary measures are implemented that ensure no fugitive hexavalent chromium emissions result from the break, crack, gap, or deterioration.

Conditional Requirements for Permanent Total Enclosure (e)(9)

- Permanent Total Enclosure is required only if a facility meets the criteria for non-compliance
- Permanent Total Enclosure is required if:
  - More than one incident of non-compliance of any provision in paragraph source testing requirements within a consecutive 48-month period
    - Includes not meeting the applicable emission limit for any Tier II tank or failure to conduct source test
  - More than one incident of non-compliance with the requirements for:
    - Measuring and correcting the slot velocity (k)(6)(A); and
    - Conducting qualitative smoke test (k)(6)(B)

(9) Permanent Total Enclosures

(A) The owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing operations shall install a Permanent Total Enclosure for a Tier II Hexavalent Chromium-Containing Tank if:

(i) More than one incident of non-compliance of any provision in paragraph (k)(1) within a consecutive 48-month period; or

(ii) More than one incident of non-compliance with the requirements set forth in subparagraphs (k)(6)(A) and (k)(6)(B).

Permanent Total Enclosure Requirements

- Requirements for Permanent Total Enclosure
  - Vented to an add-on air pollution control device that is fitted with HEPA filters or filter media rated by the manufacturer to achieve 99.97% control efficiency for 0.3 micron particles
  - Does not conflict with OSHA, Cal-OSHA, or NFPA guidelines
- Schedule for installation of Permanent Total Enclosure:
  - Owner or operator shall submit permit applications no later than:
    - 90 days after notification if facility's property line is within 500 ft. of a sensitive receptor, school, or early education center
    - 180 days after notification for all other facilities
  - Must complete installation of Permanent Total Enclosure no later than 12 months after the Permit to Construct is issued
  - Seeking input on timeframes

(B) The owner or operator required to install a permanent total enclosure pursuant to paragraph (e)(9) shall vent the Permanent Total Enclosure to an add-on air pollution control device that is fitted with HEPA filters, or other filter media that is rated by the manufacturer to be equally or more effective, and designed in a manner that does not conflict with requirements or guidelines set forth by OSHA or CAL-OSHA regarding worker safety, or the National Fire Protection Association regarding safety.

(C) The owner or operator that has been notified by the Executive Officer to have triggered the requirement specified in subparagraph (e)(9)(A) shall install the permanent total enclosure no later than 12 months after the Permit to Construct is issued by the Executive Officer. The owner or operator shall submit complete permit applications for the permanent total enclosure to the Executive Officer no later than:

(i) 90 days after notification by the Executive Officer if the property line of the facility is within 500 feet of the property line of any sensitive receptor, school, or early education center.

(ii) 180 days after notification by the Executive Officer for all other facilities.

Overview of Subdivision (f) – Housekeeping Requirements

- Subdivision establishes requirements for Housekeeping Requirements
- Revisions since last Working Group Meeting highlighted
- Key sections in subdivision (f):
  - Paragraph (f)(1) – Storage of materials when not in use
  - Paragraph (f)(2) – Transporting materials
  - Paragraph (f)(3) – Cleaning spills
  - Paragraph (f)(4) – Cleaning surfaces
  - Paragraph (f)(5) – Handling waste generated from housekeeping activities
  - Paragraph (f)(6) – Housekeeping for grinding or polishing
  - Paragraph (f)(7) – Flooring on walkways

Revisions to Housekeeping for Buffing, Grinding, or Polishing and Flooring on Walkways (f)(6) and (f)(7)

- Buffing, grinding, and polishing revisions (f)(6)
  - Reduced distance for cleaning from 30 to 20 feet of a buffing, grinding, or polishing workstation and any entrance/exit point of a building enclosure (f)(6)
  - Moved provision to conduct all buffing, grinding, or polishing within a building enclosure into subdivision for best management practices (f)(6)
- Flooring on walkways revisions (f)(7)
  - Clarified fabric fibrous materials to state "fabric or non-wood fibrous materials…"
- Moved prohibition on use of compressed air cleaning and drying to best management practices

(6) Within 1 hour of the end of the last operating shift for when buffing, grinding, or polishing are conducted, the owner or operator shall clean, using an approved cleaning method, floors within 20 feet of a buffing, grinding, or polishing workstation and any entrance/exit point of a building enclosure.

~~(F) Install a physical barrier to separate the buffing, grinding, or polishing area within a facility from the hexavalent chromium electroplating or anodizing operation. The barrier may take the form of plastic strip curtains.~~

~~(G) Compressed air cleaning operations shall not be conducted at or adjacent to the buffing and grinding areas or the hexavalent chromium electroplating or anodizing operations.~~

(7) Eliminate all flooring on walkways in the tank process areas that is made of fabric or non-wood fibrous materials such as carpets or rugs where hexavalent chromium containing materials can become trapped.

Overview of Subdivision (g) – Best Management Practices

- Subdivision establishes requirements for Housekeeping Requirements
- Revisions since last Working Group Meeting highlighted
- Key sections in subdivision (g):
  - Paragraph (g)(1) – Drag-out Requirements
  - Paragraph (g)(2) – Requirements for Rinsing Parts
  - Paragraph (g)(3) – Tank Labeling Requirements
  - Paragraph (g)(4) – Tank Marking for Liquid Level
  - Paragraphs (g)(5) and (e)(6) – Buffing, grinding and polishing requirements
  - Paragraph (g)(7) – Use of Compressed Air
  - Paragraph (g)(8) – Hexavalent Chromium Content of Rinse Tanks

Rinsing and Tank Labeling Requirements (g)(2) and (g)(3)

- Revisions to rinsing requirements (g)(2)
  - Language cleaned up regarding physical containment of hexavalent chromium laden liquid
  - Added provision that allows the use of a low pressure spray nozzle where installation of splash guards would restrict overhead crane systems
- Revisions to labeling tanks (g)(3)
  - Addded that labels include SCAQMD permit number and to maintain clean and legible labeling
- Provision to install permanent tank covers is moved to section on Add-on Air Pollution Control Device and Emission Standards

(2) The owner or operator of a facility that conducts chromium electroplating or chromic acid anodizing operations shall not rinse above a tank, parts or equipment that contain chromium laden liquid using a water spray unless the chromium laden parts or equipment are fully lowered inside a tank where the overspray and all liquid is captured inside the tank, or instead meet the following conditions:

(A) Ensure any hexavalent chromium laden liquid is captured and returned to the tank.

(B) Install a splash guard at the tank that are free of holes, tears or openings. Splash guards shall be cleaned weekly, such that there is no accumulation of visible dust or residue potentially contaminated with hexavalent chromium.

(C) For tanks located within a process line utilizing an overhead crane system that would be restricted by the installation of splash guards specified in subparagraph (f)(2)(B), a low pressure spray nozzle may instead be used and operated in a manner that water flows off of the part or equipment and there is no water splashing off parts or equipment during the rinsing process.

(3) Maintain clear labeling of each tank within the tank process area with a tank number or other identifier, SCAQMD permit number, bath contents, maximum concentration (ppm) of hexavalent chromium, operating temperature range, and any agitation methods used.

Liquid Level Tank Marking, Compressed Air, and Concentration of Rinse Tanks (g)(4), (g)(7), and (g)(8)

- Liquid Level Tank Marking (g)(4)
  - Added provision to provide easier verification that requires Tier II tanks to have a visible mark such as an etched line or paint mark on the interior of the tank that indicates the liquid 8 inches below the lip of the tank Requires all buffing, grinding, and polishing operations be conducted within a building enclosure
- Prohibition on Use of Compressed Air Cleaning (g)(7)
  - Moved from housekeeping (h)
  - No substantive changes
- Hexavalent Chromium Concentration in Rinse Tank (g)(8)
  - Added provision to maintain all rinse tanks associated with Tier I and Tier II hexavalent chromium tanks at a TBD hexavalent chromium concentration level

(4) Beginning [30 Days After Date of Rule Adoption], the owner or operator of a Tier II Hexavalent Chromium-Containing Tank that is subject to paragraph (d)(4), shall make a visible mark, such as an etched line or paint mark on the interior of the tank, that indicates the location that is 8 inches below the lip of the tank.

(7) Prohibit compressed air cleaning or drying operations within 30 feet of any Tier I or Tier II Hexavalent Chromium-Containing Tank unless a barrier separates those areas from the compressed air cleaning or drying operation such that particulates from those areas do not become airborne as a result of any compressed air cleaning or drying operation.

(8) Maintain all rinse tanks associated with any Tier I and Tier II Hexavalent Chromium-Containing Tank at a hexavalent chromium concentration below [TBD] ppm.

Overview of Subdivision (h) – Add-On Pollution Control Devices and Emission Standards

- Subdivision establishes requirements of add-on pollution control devices and emission standards
- Key sections in subdivision (h):
  - Paragraph (h)(1) – Prohibits removing control equipment
  - Paragraph (h)(2) – Emission Standards for Existing Chromium Electroplating and Chromic Acid Anodizing Facilities
  - Paragraph (h)(3) – Modified Chromium Electroplating or Chromic Acid Anodizing Facilities
  - Paragraph (h)(4) – New Chromium Electroplating and Chromic Acid Anodizing Facilities
  - Paragraph (h)(5) – Decorative Chromium Electroplating Tanks Using a Trivalent Chromium Bath
  - Paragraph (h)(6) – Emission Standards for Tier II Hexavalent Chromium-Containing Tanks

Overview of Subdivision (h) – Add-On Pollution Control Devices and Emission Standards *(Continued)*

- Key sections of subdivision (h) that are moved or deleted:
  - Moved Training and Certification requirements to its own section
  - Removed past interim emission standards
  - Removed permit application submittal dates
    - Past compliance dates
  - Removed requirement to notify the District of the nearest sensitive receptor
    - This information is required as part of the on-going status report that is required each year (Appendix 3)
  - Proposing to remove Screening Health Risk Assessment (next slide)

Screening Health Risk Assessment Provisions

- Staff is recommending removal of provisions for Screening Health Risk Assessment
- SCAQMD staff is working with CARB to ensure removal of this provision is consistent with their ATCM
- SCAQMD staff implements AB2588 through Rule 1402
- Health risk assessments can and are requested through Rule 1402
  - Provisions for Screening Health Risk Assessments in Rule 1469 are not needed
- In addition, implementation of PAR 1469 will help to address health risks from chromium electroplating and chromic acid anodizing facilities

~~(C) Screening Health Risk Assessment~~

~~(i) The owner or operator of an existing facility shall conduct a screening health risk assessment if annual hexavalent chromium emissions from the chromium electroplating and chromic acid anodizing operations exceed 15 grams in the calendar year following the year of the facility's applicable effective compliance date specified in Table 2 of paragraph (e)(11) and any calendar year thereafter.~~

~~(ii) The screening health risk assessment shall be conducted for hexavalent chromium emissions from the hexavalent chromium electroplating and chromic acid anodizing operations, and in accordance with the most current version of the District's "Risk Assessment Procedures of Rules 1401 and 212" or "Air Toxics Hot Spots Program Risk Assessment Guidelines" *(OEHHA Guidelines)*.~~

~~(iii) The owner or operator shall submit the screening health risk assessment to the Executive Officer within 120 days of the end of the calendar year during which the facility's hexavalent chromium emissions exceeded 15 grams.~~

~~(iv) The owner or operator may comply with clause (e)(11)(C)(i) by using an existing health risk assessment or screening health risk assessment previously approved by the District provided the existing health risk assessment is:~~

~~(I) Based on the most current version of the District's~~

Provisions for Removal of Add-On Pollution Control Device(s) (h)(1)

- No substantive change to paragraph (h)(1)
  - Clarification to add “The owner or operator of a chromium electroplating or chromic acid anodizing facility”
  - Changed “performance” test to “source test”

(h) Add-on Air Pollution Control Devices and Emission Standards

(~~5~~1) The owner or operator of a chromium electroplating or chromic acid anodizing facility ~~Add-on air pollution control device(s) for hard or decorative chromium electroplating or chromic acid anodizing tanks~~ shall not ~~be~~ remove~~d~~ or render~~ed~~ inoperable add-on air pollution control device(s) for hard or decorative chromium electroplating or chromic acid anodizing tanks unless it is replaced by air pollution control techniques meeting a higher control efficiency than previously achieved, or an emission rate of 0.0015 milligrams per ampere-hour or less, whichever control efficiency is more effective, as demonstrated by a ~~performance~~ source test conducted pursuant to subdivision (~~e~~k), or unless the facility is operating under an approved alternative compliance method pursuant to ~~paragraph~~subdivision (~~d~~i)~~(6)~~.

General Approach for Pollution Controls for Chrome Emitting Tanks

Electroplating and Chromic Acid Anodizing Tanks

- Emission Limits Based on Amp-Hours and Distance to Sensitive Receptors

Tier I Tanks
(Low Concentration, Low Temperature Tanks)

- Best Management Practices

Tier II Tanks[1]
(Higher Concentration, Higher Temperature, or Rectified Tanks)

- Emission Limits

[1] For Pollution Control Requirements, Excludes Electroplating and Chromic Acid Anodizing Tanks

Revisions to Table 1 (Previously Table 2) (h)(2)

- Revisions to Table 1 (previously Table 2)
  - Cleaned up and consolidated emission limits
  - Removed past effective dates
- For tanks ≤ 100 meters and >20,000 Amp-hours and tanks >100 meters and >500,000 Amp-hours
  - In addition to add-on pollution control device(s) added "non-ventilated add-on air pollution control device(s)"
  - Any pollution control technique must meet 0.0015 mg/Amp-hrs
- For tanks >100 meters and > 50,000 and ≤500,000 Amp-hours
  - Require use of air pollution control technique approved by the Executive Officer
  - Current Rule 1469 did not specify the control approach
  - Any pollution control technique must meet 0.0015 mg/amp-hrs

Table 1: Hexavalent Chromium Emission Limits for Existing Tanks

Distance to Sensitive Receptor (meters)[1]	Annual Permitted Ampere-hours	Emission Limit (mg/amp-hr)	Required Air Pollution Control Technique
< 100	< 20,000	0.01	Use of Certified Chemical Fume Suppressant. Alternatively, a facility may install an add-on air pollution control device(s) or non-ventilated add-on air pollution control device(s) that controls emissions to below 0.0015 mg/amp-hr.
< 100	> 20,000	0.0015	Add-on air pollution control device(s) or non-ventilated add-on air pollution control device(s).
> 100	< 50,000	0.01	Use of Certified Chemical Fume Suppressant. Alternatively, a facility may install an add-on air pollution control device(s) or non-ventilated add-on air pollution control device(s) that controls emissions to below 0.0015 mg/amp-hr.
> 100	> 50,000 and < 500,000	0.0015	Use of an air pollution control technique approved by the Executive Officer.
> 100	> 500,000	0.0015	Add-on air pollution control device(s) or non-ventilated add-on air pollution control device(s).

[1] Distance shall be measured, rounded to the nearest foot, from the edge of the chromium electroplating or anodizing tank nearest the sensitive receptor (for facilities without add-on air pollution control devices) or from the centroid of the stack(s) (for facilities with add-on air pollution control devices) to the property line of the nearest sensitive receptor existing on or before October 24, 2007.

~~**Table 2: Hexavalent Chromium Emission Limits for Existing Tanks**~~

~~Distance to Sensitive Receptor (meters)~~	~~Annual Permitted Ampere-hours~~	~~Emission Limit (mg/amp-hr)~~	~~Effective Date~~
~~≤ 100~~	~~≤ 20,000~~	~~0.01[2]~~	~~4/24/2008~~
~~≤ 100~~	~~> 20,000 and ≤ 200,000~~	~~0.0015[3]~~	~~10/24/2010~~
~~≤ 100~~	~~> 200,000~~	~~0.0015[3]~~	~~10/24/2009~~
~~> 100~~	~~≤ 50,000~~	~~0.01[2]~~	~~4/24/2008~~
~~> 100~~	~~> 50,000 and ≤ 500,000~~	~~0.0015~~	~~10/24/2011~~
~~> 100~~	~~> 500,000~~	~~0.0015[3]~~	~~10/24/2009~~

~~[1] Measured after add-on air pollution control device(s).~~
~~[2] Achieved through use of Certified Chemical Fume Suppressants. Alternatively, a facility may install an add-on air pollution control device(s) that controls emissions to below 0.0015 mg/amp-hr.~~

Table 1: Hexavalent Chromium Emission Limits for Existing Electro Plating and Chromic Acid Anodizing Tanks

Distance to Sensitive Receptor (meters)[1]	Annual Permitted Ampere-hours	Emission Limit (mg/amp-hr)	Required Air Pollution Control Technique
< 100	< 20,000	0.01	Use of Certified Chemical Fume Suppressant. Alternatively, a facility may install an add-on air pollution control device(s) or non-ventilated add-on air pollution control device(s) that controls emissions to below 0.0015 mg/amp-hr.
< 100	> 20,000	0.0015	Add-on air pollution control device(s) or non-ventilated add-on air pollution control device(s).
> 100	< 50,000	0.01	Use of Certified Chemical Fume Suppressant. Alternatively, a facility may install an add-on air pollution control device(s) or non-ventilated add-on air pollution control device(s) that controls emissions to below 0.0015 mg/amp-hr.
> 100	> 50,000 and < 500,000	0.0015	Use of an air pollution control technique approved by the Executive Officer.
> 100	> 500,000	0.0015	Add-on air pollution control device(s) or non-ventilated add-on air pollution control device(s).

[1] Distance shall be measured, rounded to the nearest foot, from the edge of the chromium electroplating or anodizing tank nearest the sensitive receptor (for facilities without add-on air pollution control devices) or from the centroid of the stack(s) (for facilities with add-on air pollution control devices) to the property line of the nearest sensitive receptor existing on or before October 24, 2007.

Modified and New Chromium Electroplating or Chromic Acid Anodizing Facilities (h)(3) and (h)(4)

- Removed provisions regarding compliance with Rules 1401, 1401.1, and 1402
  - Unconventional to reference compliance with SCAQMD rules
  - All new are modified permits will be subject to Rules 1401 and 1402
  - Facilities are required to comply with all SCAQMD rules regardless of whether it is stated in Rule 1469 or any other rule

Modified Chromium Electroplating or Chromic Anodizing Facilities

~~(B) When annual emissions of hexavalent chromium after modification are expected to exceed 15 grams per calendar year, the owner or operator shall demonstrate that the modification complies with District Rules 1401, 1401.1 and 1402 prior to initial start-up.~~

New Chromium Electroplating or Chromic Anodizing Facilities

~~(v) Conduct a facility-wide screening health risk assessment for all toxic air contaminant emissions which shall be submitted to the District when filing applications for Permit to Construct/Operate the new equipment. The screening health risk assessment shall be conducted in accordance with the most current version of the District's "Risk Assessment Procedures of Rules 1401 and 212" or *OEHHA Guidelines*; and~~

~~(vi) Comply with District Rules 1401 and 1401.1, if applicable.~~

Decorative Chromium Electroplating Tanks Using a Trivalent Chromium Bath (h)(5)

- Clarification that use of chemical fume suppressants cannot contain PFOS
- Removed permit application submittal requirement for past effective dates
- Removed provisions regarding compliance with Rules 1401, 1401.1, and 1402

(~~14~~5) Decorative Chromium Electroplating Tanks Using a Trivalent Chromium Bath

(A) During tank operation, the owner or operator of an existing, modified, or new facility shall control chromium emissions discharged to the atmosphere by meeting one or more of the requirements identified below.

Method of compliance	Requirement
Add-on air pollution control device, or chemical fume suppressants forming a foam blanket, or mechanical fume suppressants (i.e. polyballs)	≤ 0.01 milligrams per dry standard cubic meter of air (mg/dscm) (4.4×10^{-6} gr/dscf)
A ~~certified~~ chemical fume suppressant~~s~~ containing a wetting agent that does not contain PFOS	Use wetting agent as bath component and comply with recordkeeping and reporting provisions of paragraphs (jo)(9) and (~~k~~p)(5).

~~(B) New facilities that perform electroplating using a trivalent chromium bath shall conduct a facility-wide screening health risk assessment for all toxic air contaminant emissions which shall be submitted to the District when filing applications for Permit to Construct/Operate the new equipment. The screening health risk assessment shall be conducted in accordance with the most current version of the District's "Risk Assessment Procedures of Rules 1401 and 212" or *OEHHA Guidelines*.~~

Definition of Tier I and Tier II Hexavalent Chromium Containing Tanks

Tier I Tank

Hexavalent Chromium Concentration ≥ [TBD] PPM

Tier II Tank

Tier I Tank with a tank bath surface area ≥ [TBD] sq. ft.
AND
Higher Concentration, Lower Temperature Tanks; or
Higher Temperature, Lower Concentration Tanks that:

- Uses air sparging as an agitation method;
- Electrolytic with permitted annual amp-hr limit of ≥ [TBD]; or
- Bubbling observed at surface

Emission Standard for Tier II Hexavalent Chromium-Containing Tanks (h)(6)

- Collection and venting of all hexavalent chromium emissions from all Tier II tanks to add-on air pollution control devices that meets
  - TBD mg/amp-hr, if rectified
  - TBD mg/hr and TBD concentration limit, if not rectified
- Required air pollution control techniques shall be operated at the applicable minimum hood induced capture velocity specified in the most current edition of the *Industrial Ventilation, A Manual of Recommended Practice for Design*
- Permit applications for add-on air pollution control devices shall be submitted 180 days after Date of Adoption of PAR 1469
- Air pollution control device(s) shall be installed no later than 1 year of a Permit to Construct is issued

Thresholds for Tier I and II Tanks and Emission Standards for Tier II Tanks

- Conducting additional emissions testing to establish temperature and concentration thresholds
  - Objective is to identify at what temperature and concentration do emissions increase
- Developing emission standards – taking into consideration:
  - Uncontrolled emissions
  - Control efficiency of pollution controls
  - Current emission standards for electroplating and anodizing tanks
- Goal is to have recommendations at next Working Group Meeting

Temperature	Concentration	Emissions
Higher	Higher	High Emissions (Sodium Dichromate Seal)
Higher	Lower	Additional Testing
Lower	Higher	Additional Testing

Add-on Air Pollution Control Devices and Emission Standards *(continued)*

- Interim requirements for Tier II tanks
  - Beginning 30 days after Date of Adoption
    - Tier II tanks must have permanent covers installed until they are controlled using an approved air pollution control technique
    - Covers must be closed immediately after the end of each operating shift for the tank's associated process line
- Included provision to test out of Tier II requirements for installation of add-on pollution control device(s)
  - If an approved screening test for uncontrolled hexavalent chromium emissions demonstrates an emission rate of less than TBD mg/hr and TBD mg/dscm, add-on air pollution control device(s) not required

Alternative Compliance Methods for New, Modified and Existing Chromium Electroplating and Chromic Acid Anodizing Facilities (i)

- Removed provisions for interim alternative compliance options and methods with past effective dates
- Remaining provision in this subdivision allows owners or operators to submit alternative compliance methods for Tier II tanks at modified, existing, and new facilities for District review and approval
- Criteria for existing equivalence demonstration is found in Appendix 7 of the rule

Training and Certification (j)

- Moved from Best Management Practices section and given its own section

Overview of Subdivision (k) – Source Test Requirements and Test Methods

- Subdivision establishes requirements for Source Testing
- Key sections in subdivision (k):
  - Paragraph (k)(1) – Source Test Requirements
  - Paragraph (k)(2) – Use of Previously Conducted Source Test
  - Paragraph (k)(3) – Approved Test Methods
  - Paragraph (k)(4) – Source Test Protocol
  - Paragraph (k(5) – Emission Points Test Requirements
  - Paragraph (k)(6) – Capture Efficiency
  - Paragraph (k)(7) – Additional Requirements for Capture Efficiency

Source Test Requirements and Test Methods (k)

- Beginning with the date of adoption of PAR 1469, source tests shall be conducted on air pollution control techniques at least once every 3 years
- Source tests conducted after September 1, 2015 and prior to rule amendment adoption may be used to demonstrate compliance with the initial source test
  - Facilities shall submit the previously conducted source test to SCAQMD within 30 days of adoption
- Emissions testing for alternative add-on air pollution control devices shall be conducted using the smoke test

Source Test Requirements and Test Methods *(continued)*

- Source test protocols
  - Protocols for initial source tests shall be submitted for existing air pollution control techniques no later than 60 days after rule adoption
    - Subsequent protocols shall be submitted no later than 120 days prior to the compliance deadline for conducting the next source test
    - Previous source test protocol may be used if no changes to operation since last source test and must notify the District no later than 120 days compliance deadline for conducting the next source test
  - New or modified air pollution control techniques shall submit the initial source test protocol no later than 60 days after initial start-up
    - Subsequent protocols shall be submitted no later than 120 days prior to the compliance deadline for conducting the next source test
- Source tests shall be conducted no later than 60 days from approval of the protocols

Source Test Requirements and Test Methods *(continued)*

- Source tests shall include the capture efficiencies of add-on air pollution control devices and non-ventilated add-on air pollution control devices
- In order to demonstrate continuous compliance, the velocity of collection slots and push air holes shall be monitored at least monthly
  - If a collection slot has a measured velocity decrease of between 5-10% of the velocity measured in the most recent approved source test, the collection slot was must be repaired or replaced and re-measured in 3 calendar days
  - If a push air hole has a measured pressure difference of between +/- 5-10% of the velocity measured in the most recent approved source test, the hole must be repaired or replaced and re-measured in 3 calendar days.
  - If these velocities are not corrected within 3 days, the process lines associated with the air pollution control device must be shut down until the velocities are corrected

Source Test Requirements and Test Methods *(continued)*

- If an add-on air pollution control device or alternative add-on air pollution control device has a decrease of >10% velocity of a collection slot, or a greater than +/- 10% velocity of a push air hole, the process lines shall be shut down until full compliance can be achieved

Certification of Wetting Agent Chemical Fume Suppressants (I)

- Prohibition on adding PFOS based fume suppressants to any electroplating or anodizing bath.
- Lowered the minimum surface tension that chemical fume suppressants shall meet:
  - Below 40 dynes/cm, measured by a stalagmometer; OR
  - Below 33 dynes/cm, measured by a tensiometer
- Added provision requiring use of fume suppressants in accordance with certification and manufacturer specifications

Overview of Subdivision (m) – Parameter Monitoring

- Subdivision establishes requirements for Parameter Monitoring to ensure pollution controls are working on a continuous basis
- Key sections in subdivision (m):
  - Paragraph (k)(1) – Pressure Drop Across Add-On Pollution Control Device
  - Paragraph (k)(2) – Chemical Fume Suppressants
  - Paragraph (k)(3) – Fume Suppressants Forming a Foam Blanket
  - Paragraph (k)(4) – Polyballs or Similar Mechanical Fume Suppressants
- No substantive changes for paragraphs (k)(2), (k)(3), and (k)(4)

Parameter Monitoring for Add-On Pollution Devices (m)(1)

- Pressure drops shall be maintained within the range specified in the Permit to Operate, with the acceptable pressure drop range marked on the gauge.
  - Removed reference to specific types of add-on air pollution control devices, and instead addresses all add-on air pollution control devices
- Added specific requirements for monitoring, calibration, and maintenance of pressure drops at HEPA filters
- Added requirements to monitor the operation of add-on air pollution control devices by installing and maintaining mechanical gauges to measure pressure and air flow
  - Measurement parameters are listed in Table 2 (next slide)
  - Gauges shall be labeled with the acceptable pressure and/or airflow ranges
  - Required beginning 60 days after date of rule adoption

Table 2: Pressure and Air Flow Measurement Parameters

Location	Parameter Monitored	Units
Push Manifold	Static Pressure	Inches of water
Collection Manifold	Static Pressure	Inches of water
Across each stage of the control device	Static Pressure	Inches of water
Exhaust stack	Exhaust Flow Rate or Velocity Pressure	ACFM or inches of water

Requirements for Inspection and Maintenance & Operation and Maintenance Plan (n)

- Requirements will additionally apply to non-ventilated add-on air pollution control devices
- Additional inspection and maintenance requirement include:
  - Temperature gauges
  - Collection slot measurements
  - Push air hole measurements
  - Pressure and air flow gauges
- Removed language regarding outdated effective dates
- Moved Tables 4 and 5, the summaries of inspection and maintenance requirements, to Appendix 4

Recordkeeping (o)

- Requirements will additionally apply to alternative add-on air pollution control devices
- Records of pressure and velocities measurements at add-on air pollution control devices shall be recorded every day of operation prior to start of operation
- Maintain records of building inspection and repairs specified in paragraphs (e)(6) and (e)(7)
- Increased frequency of surface tension measurement from weekly to each day, prior to the start of operation
  - Concern that non-PFOS fume suppressants degrades at a quicker rate than PFOS fume suppressants

Reporting (p)

- Facilities shall report incidents, failed tests, exceedances, or malfunctions to 1-800-CUT-SMOG within one hour of the incident
- Facilities shall submit a follow-up written report with details of the notification of the incident and steps taken to correct it and prevent future incidents
- Language for Title V Permit requirements have been removed due to redundancy

Exemptions (r)

- Removed exemption for associated tanks that are not electroplating or anodizing tanks
- Removed exemptions related to equipment breakdowns per Rule 430

Revisions to Appendices

- Appendix 1 – Content of Source Test Reports
  - Added information required in source test reports:
    - Applicable Industrial Ventilation Limits
    - Collection slot velocities
    - Measured static or velocity pressures across different stages of the control device
- Appendices 2 & 3 – Content of initial and ongoing compliance status reports
  - Requirements apply to alternative add-on air pollution control devices
- Removed former Appendix 4 – Notification of Construction Reports, as these requirements are met during the Permit to Construct application review process
- Appendix 4 – Summary of Inspection and Maintenance Requirements
  - Tables and language moved from section for Requirements for Inspection and Maintenance & Operation and Maintenance Plan
  - Added inspection and maintenance requirements for temperature gauges, collection slots and push air holes, and pressure and air flow gauges
- Appendix 5 – Smoke Test for Chromium Tank Covers
  - Requirements now apply to Tier II tanks
  - Changed language in Principle section to reflect the occurrence of emissions during electrolytic operations
- Removed former Appendix 7, which discussed past interim requirements

Schedule

- Rulemaking schedule is delayed one month to allow additional time to complete emissions testing of tanks
  - Public Hearing January 2018
- Next Working Group Meeting is tentatively schedule for Paramount
- Staff anticipates Preliminary Draft Staff Report and Rule to be released mid-October